his race. The long winter evenings are frequently the occasions of family gatherings or of larger parties which take in a whole neighborhood. No matter how cold the night or how long the drive, the *habitant* faces both to indulge his social instinct. The evening is spent in old-fashioned games, in music or cards, seldom dancing. That distinguishes a wedding, and is limited to quadrilles, reels and jigs, for the priests will not allow more. The most striking figure of the entertainment is the fiddler, the national historical character whom France gave to the New World, and who can be traced in the early annals of this country from the St. Lawrence settlements down through the fur stations on the Great Lakes, the Wisconsin and Illinois Rivers, through the fortified trading-posts on the Ohio and the Mississippi, and, farther still, among the trappers' camps on the upper Missouri. On the western rivers he has passed into tradition, but on the Lower St. Lawrence to-day he flourishes still, and at the wedding festivities uses the technique and plays the repertoire which have come down to him from a long line of fiddlers. He sits on a high seat or table and "calls off" the figures, while the *habitant* youths and maidens go through the quaint dances of their forefathers.

Old in his mind, old in his manners, old in his activities, old in his faith—that is the *habitant.*

THE PAN-AMERICAN RAILWAY.

(MAP, p. 512.)

The accompanying map is based upon the larger map in the Report of Charles M. Pepper, United States and Pan-American Railway Commissioner, showing the proposed route of the Pan-American Railway, and the routes of the branch roads which will connect the trunk line with many important points to the east and west of it. The Report, dated March 12th, 1904, gives the results of the Commissioner's visit in 1903 to all the Latin republics on the North American mainland, and to the republics of Brazil, Uruguay, Argentina, Chile, Bolivia, Peru, and Ecuador for the purpose of gathering facts and giving publicity to the conditions that are likely to encourage private capital to utilize the inducements for railroad-building offered by the various republics.

The Commissioner found that since the Second International

Conference of American States, held in the City of Mexico in the winter of 1901–2, in relation to the Pan-American Railway, a number of favourable circumstances have combined to give substantial support to the Intercontinental Railway project, and to show that genuine progress is being made. He mentions the following among these events:

1. Actual construction work on railroads in Mexico south to the border of Guatemala, and from the terminus of the present system of railroads in the Argentine Republic north to the frontier of Bolivia and beyond, thus closing the sections which were open when the survey of the Intercontinental Railway Commission was made from the northern limit of Guatemala to the southern boundary of Bolivia.

2. The marked advance among the various countries in determining disputed boundaries and settling other questions at issue, by this means eliminating causes of friction which retarded railway communication among them.

3. The passage of the law by the Congress of Chile providing for the construction of the Trans-Andean line, which will give the Atlantic and Pacific coasts through-rail communication.

4. The legislation proposed by several of the republics, and in some cases, as in Peru, already adopted, with the view of establishing guarantee funds and other elements of permanent railway policy.

5. The definite conclusion of the question of the Isthmian Canal and the measures which insure the early construction of this international waterway.

The decision of the Mexican Government to prolong its lines to the frontier of Guatemala will have a very favourable influence on the commerce of the United States and Mexico, and in its effect on the republics of Central America by the encouragement to intercommunication which is thus given. For several years the Mexican lines south remained stationary, and while this was the condition there was little inducement to construct the intercontinental links through Guatemala and the other Central American countries. The concession granted for building a railway which would continue the present system to the borders of Guatemala was almost contemporaneous with the meeting of the Second Conference in the City of Mexico.

When Mexico was taking steps to prolong its lines to its southern borders the Argentine Republic was carrying to completion long-considered plans for extending its system to Bolivia and northward,

so that ultimately Buenos Aires will be connected with Lima, in Peru. For years the railroads of the Argentine Republic had their terminus at the town of Jujuy, 178 miles from the southern limit of Bolivia. Until these lines reached Bolivia incentive was lacking in that Republic to construct railroads which would form part of the Intercontinental system north and south. Since the Second Conference closed its sessions the Argentine Republic has taken measures to prolong the railways not only to the border, but beyond, into Bolivian territory, under the terms of the convention between the two countries. The road is now being constructed. This is of unusual importance to the Argentine Republic, Uruguay, Bolivia, and Peru.

Mr. Pepper says that the delimitation of disputed boundaries and the settlement by diplomatic negotiations or by arbitration of various controversies have prepared the way for closer communication, which was not wanted as long as the sovereignty of territory was undetermined. Among these agreements are the arbitration of the limits of the Argentine Republic and Chile in the Cordilleras; the convention recently signed by Peru and Ecuador for the arbitration of the disputed territory in the Napo River region; and the treaty between Brazil and Bolivia, under which the boundaries of the Acre rubber-producing territory are determined, and a beneficial impulse is given to railway-building in the Amazonian interior of South America. All the boundary and similar controversies are not yet terminated, but the progress made and the friendly spirit shown by the interested nations justify the belief that those yet undetermined will form no barrier to the policy of railway intercommunication which now is strongly favoured by all the republics.

The Trans-Andean Railway law passed by the Chilean Congress, and the matured plans of the Government for carrying out that legislation, which will make possible the through-rail journey from Valparaiso to Buenos Aires, may be taken as significant of the feeling of international friendship now so pronounced, and also of the appreciation of the advantages of extending commerce. The project itself is likely to be completed within five years at the longest, so that the Andes will be pierced and the transverse line of railway communication, which from its nature will feed the Intercontinental system, will be fully established.

Very practicable measures have been adopted to meet deficiencies in existing laws, and to furnish both inducement and security to capital invested in railroad-building. This is notably the case in the Republics of Peru and Bolivia. The Peruvian law, which was

enacted in February of the present year, creates and sets aside a special revenue as a permanent fund for guaranteeing capital invested in railway construction of specified routes that have for their purpose the internal development of the country, and especially of lines that will be part of the Intercontinental system. The legislation is significant of the progressive policy of the Peruvian Government.

Bolivia receives a cash indemnity of approximately $10,000,000 gold from Brazil, under the treaty for the settlement of the Acre dispute. This money is to be applied to railway construction, and it is the announced policy of the Bolivian Government to use the fund as the basis for further railway credit. This assures the building of the sections that are lacking in the Intercontinental route, for the preference is given to these sections.

Mr. Pepper's report enlarges upon the beneficial influence which the Panama Canal will exert upon the building of railroads in the Latin republics and its consequent value as a factor in the development of the Pan-American Railway.

The Commissioner comments upon the great value of the Intercontinental survey for the railroad made by the various engineering corps during the years 1892–1896:

> The conclusions of the engineers have been accepted quite generally. Their pioneer labors have formed the bases, heretofore unattainable, for a comprehensive study of railway development in Central and South America, and have been of special benefit in various exploitation enterprises collateral to railway building, the success of which would be dependent on means of communication. They have also formed the groundwork for further studies by geographical societies, scientific commissions, government engineers, and individuals. One outcome of this discussion has been the suggestion of variations in the tentative locations and alternative routes which might result in shortening some of the proposed sections, thus reducing materially the estimated cost of construction.
>
> An illustration is found in the use made of the studies and locations of the engineering corps for the actual building of links in the general Pan-American system. This, notably, has been shown in the line from Oroya to Cerro de Pasco, in Peru, recently finished, which forms a direct section in the Intercontinental Project. It also has been shown in the extension of the Guatemala Central Railroad, opened to traffic in November, 1903, which likewise forms a part of the Pan-American plan, and promises to be extended along the route of the survey to Ayutla on the Mexican border within a short time.

The length of the Intercontinental route, as estimated by Capt. E. Z. Steever, of the Engineer Corps, in 1896, is 10,471 miles between New York and Buenos Aires. He found that 6,702 miles were already in operation, leaving 3,769 miles to be constructed. Since then about 460 miles have been built along the line, leaving

3,309 miles to be carried out, unless the route is slightly changed to shorten the distance.

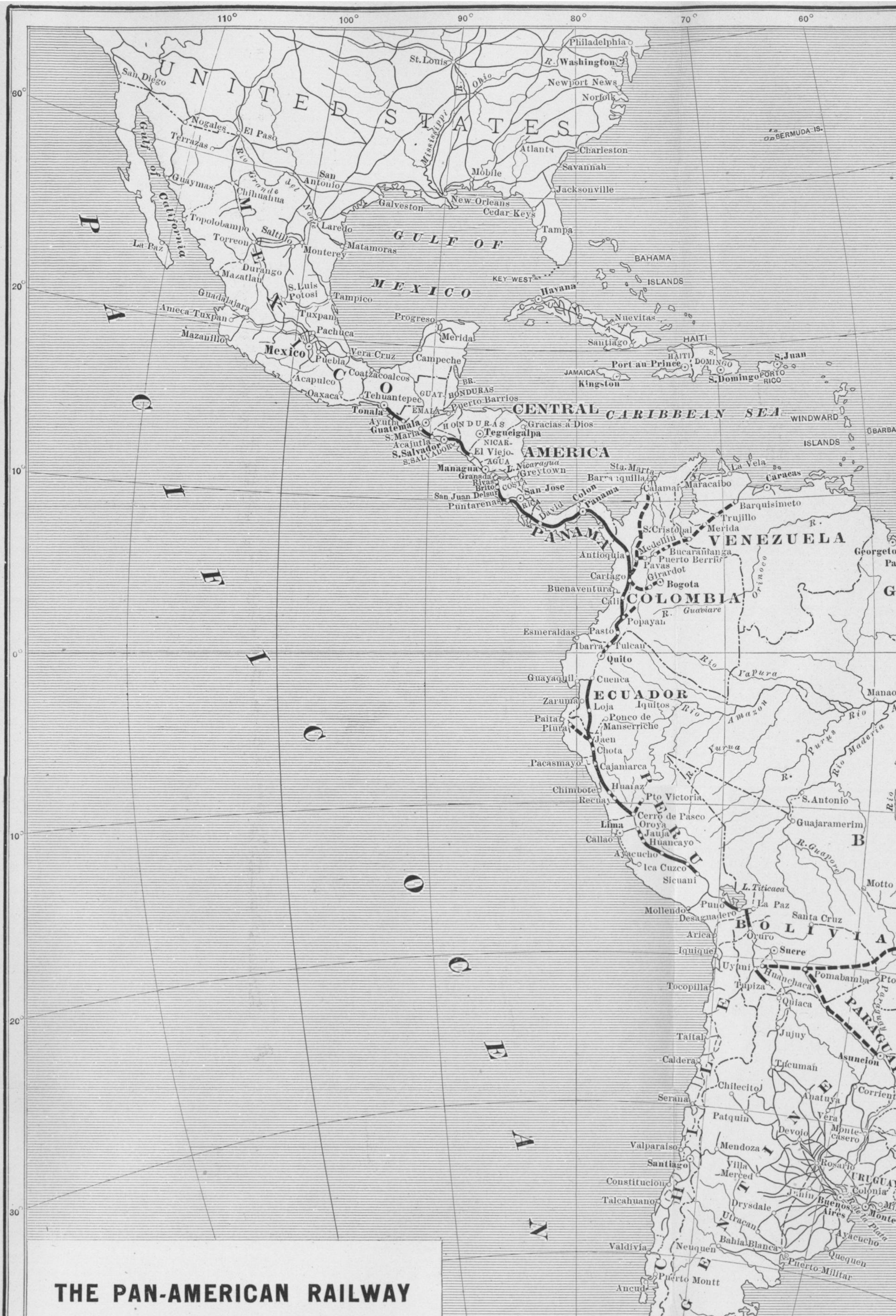
The Pan-American line presents no engineering difficulties greater than those which have been met and surmounted in lines constructed, such as the railway from Callao to Oroya, with its infinity of grades, curves, bridges, viaducts, tunnels, and switch-backs, or in the Guayaquil and Quito Railroad, as well as on several Mexican roads. The questions of a practical nature are the cost of overcoming these obstacles and the ability of the various Governments to supply the deficiency where the prospective traffic does not afford sufficient inducement to private enterprise. These questions are answered in the purpose of the Chilean Government to bore a tunnel through the Andes, in the action of the Argentine Republic in building a northern extension through the Quebrada of Humahuaca into Bolivia, in the policy of the Bolivian Government for the line connecting Tupiza and Uyuni, and in the plans of the Peruvian Government for closing the gap to Cuzco.

THE ESSENTIAL IN GEOGRAPHY.

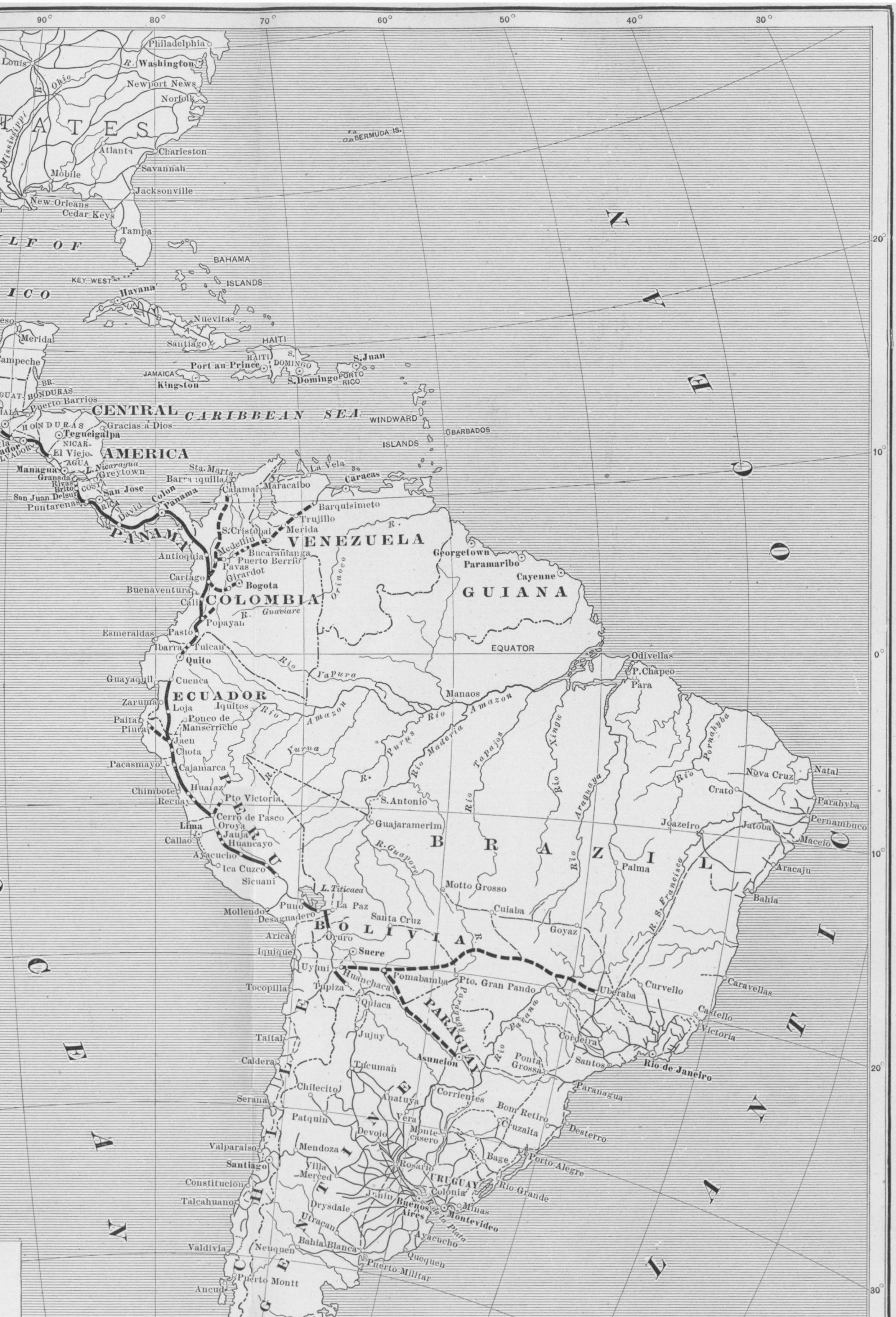
Professor Wm. M. Davis, of Harvard University, was chairman of the Section of Geology and Geography at the meeting of the American Association for the Advancement of Science in St. Louis last winter. He addressed the Section on "Geography in the United States," and in the course of his remarks gave a definition of geography and outlined what he believed to be the essential features of the study. The following are extracts from this portion of Professor Davis's paper:

The essential in geography is a relation between the elements of terrestrial environment and the items of organic response; this being only a modernized extension of Ritter's view. Everything that involves such a relationship is to that extent geographic. Anything in which such a relationship is wanting is to that extent not geographic. The location of a manufacturing village at a point where a stream affords water-power is an example of the kind of relation that is meant, and if this example is accepted, then the reasonable principle of continuity will guide us to include under geography every other example in which the way that organic forms have of doing things is conditioned by their inorganic environment.

The organic part of geography must not be limited to man, because the time is now past when man was studied altogether apart from the other forms of life on the earth. The colonies of ants on our western deserts, with their burrows, their hills, their roads and their threshing floors, exhibit responses to elements of environment found in soil and climate as clearly as a manufacturing village exhibits a response to



THE PAN-AMERICAN RAILWAY



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Mississippi
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Charleston
Savannah
Mobile
Jacksonville
New Orleans
Cedar Keys
Tampa
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KEY WEST
BAHAMA
ISLANDS
Havana
Nuevitas
Merida
Santiago
HAITI
Port au Prince
S. DOMINGO
S. Domingo
S. Juan
PORTO RICO
JAMAICA
Kingston
Campeche
BR. HONDURAS
Puerto Barrios
CENTRAL
CARIBBEAN SEA
WINDWARD
ISLANDS
BARBADOS
Gracias a Dios
HONDURAS
Tegucigalpa
NICARAGUA
El Viejo
AMERICA
Managua
Granada
Rivas
Brito
L. Nicaragua
Greytown
San Juan Delsur
Puntarenas
COSTA RICA
San Jose
David
Colon
Panama
PANAMA
Sta. Marta
Barranquilla
Calamar
Maracaibo
La Vela
Caracas
Barquisimeto
Trujillo
Merida
S. Cristobal
VENEZUELA
Medellin
Bucaramanga
Puerto Berrio
Antioquia
Pavas
Girardot
Bogota
Cartago
Buenaventura
Cali
COLOMBIA
Orinoco
Guaviare
Popayan
Georgetown
Paramaribo
Cayenne
GUIANA
Esmeraldas
Pasto
Ibarra
Tulcan
Quito
EQUATOR
Odivellas
P. Chapeo
Para
Guayaquil
Cuenca
Rio Yapura
ECUADOR
Zaruma
Loja
Iquitos
Manaos
Amazon
Paita
Piura
Ponco de Manserriche
Jaen
Chota
Purus
Rio Madeira
Tapajos
Xingu
Araguaya
Parnahyba
Pacasmayo
Cajamarca
Huaraz
Chimbote
Recuay
Pto Victoria
S. Antonio
Guajaramerim
Lima
Callao
Cerro de Pasco
Oroya
Jauja
Huancayo
PERU
Ayacucho
Ica
Cuzco
Sicuani
R. Guapore
BRAZIL
Natal
Nova Cruz
Crato
Parahyba
Pernambuco
Joazeiro
Jatoba
Maceio
Aracaju
Palma
Bahia
R. S. Francisco
L. Titicaca
Motto Grosso
Mollendo
Puno
La Paz
Desaguadero
Santa Cruz
Cuiaba
Goyaz
BOLIVIA
Arica
Oruro
Iquique
Sucre
Uyuni
Huanchaca
Pomabamba
Pto. Gran Pando
Uberaba
Curvello
Caravellas
Tocopilla
Tupiza
Quiaca
PARAGUAY
Castello
Victoria
Taital
Jujuy
Cordeira
Caldera
Tucuman
Asuncion
Rio Parana
Ponta Grossa
Santos
Rio de Janeiro
Chilecito
Anatuya
Corrientes
Paranagua
Serana
Patquin
Vera
Bom Retiro
Cruzalta
Desterro
Devoto
Monte casero
Valparaiso
Mendoza
Santiago
Rosario
Bage
Porto Alegre
Villa Merced
URUGUAY
Colonia
Rio Grande
Constitucion
Junin
Buenos Aires
Montevideo
Minas
Talcahuano
Drysdale
Rio de la Plata
Utracan
Ayacucho
Valdivia
Neuquen
Bahia Blanca
Quequen
Puerto Militar
Puerto Montt
Ancud
CHILE
ARGENTINE
PACIFIC
OCEAN
ATLANTIC
OCEAN

THE PAN-AMERICAN RAILWAY

Based on the Map prepared by the

PAN-AMERICAN R. R. COMMITTEE

and accompanying the Report of

CHARLES M. PEPPER, Commissioner.

SCALE 1 : 40,550,000

SCALE OF MILES

0 100 200 300 600 900 1200

Pan-American Route, Main Trunk

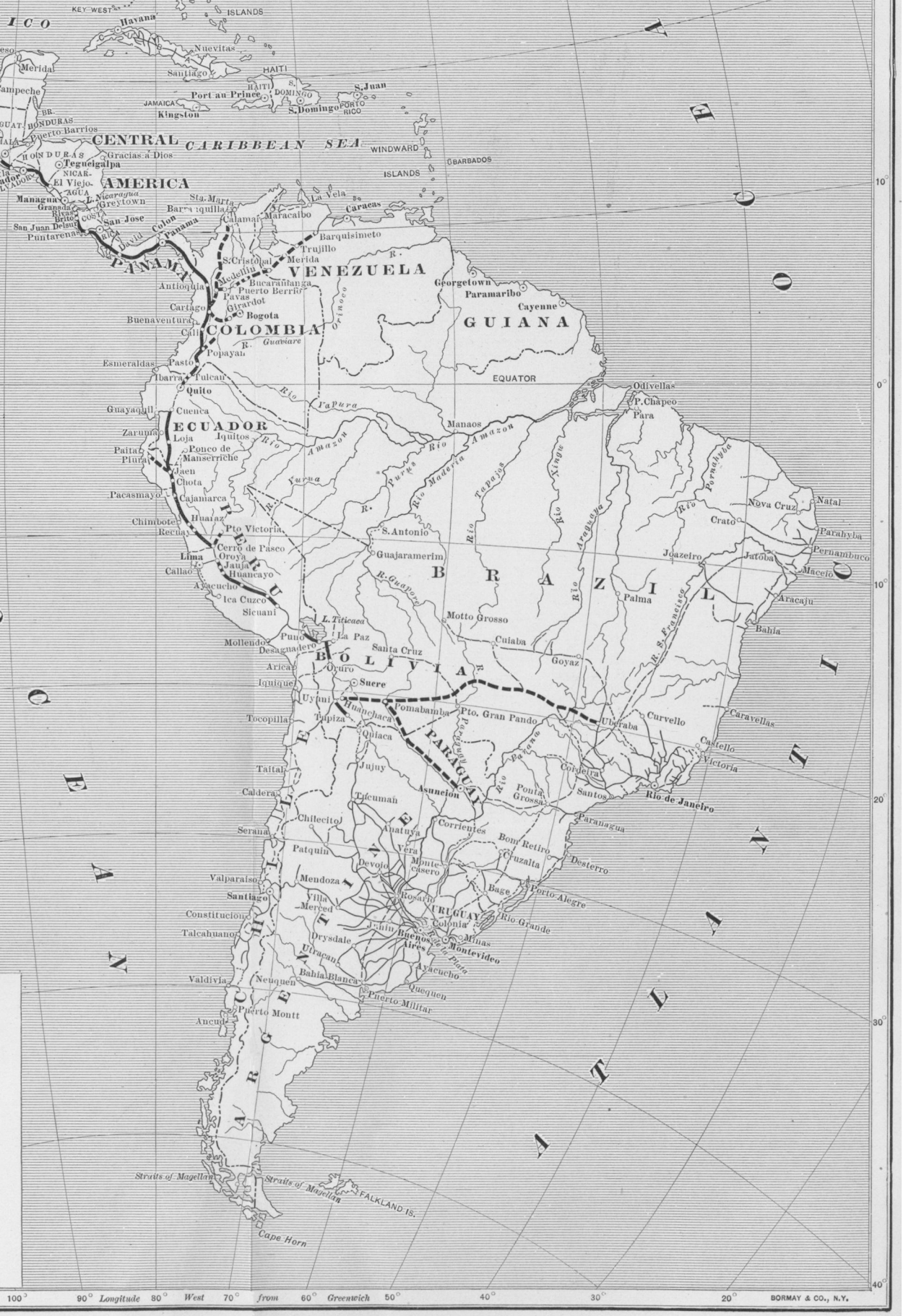
" " Proposed Connections

Railways in Operation

" under Construction or Surveyed

" Projected

Bulletin of the American Geographical Society, 1904.


KEY WEST
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ISLANDS
Nuevitas
Santiago
HAITI
Port au Prince
HAITI
S. DOMINGO
S. Juan
PORTO RICO
S. Domingo
JAMAICA
Kingston
Merida
Campeche
BR. HONDURAS
Puerto Barrios
CENTRAL AMERICA
CARIBBEAN SEA
WINDWARD ISLANDS
BARBADOS
HONDURAS
Gracias a Dios
Tegucigalpa
NICARAGUA
El Viejo
L. Nicaragua
Managua
Granada
Rivas
Greytown
COSTA RICA
San Jose
Brito
San Juan Delsur
Puntarenas
David
Colon
Panama
PANAMA
Sta. Marta
Barranquilla
Calamar
Maracaibo
La Vela
Caracas
Barquisimeto
Trujillo
Merida
S. Cristobal
Medellin
Antioquia
Bucaramanga
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R. Guaviare
Popayan
Esmeraldas
Pasto
Ibarra
Tulcan
Quito
Guayaquil
Cuenca
ECUADOR
Zaruma
Loja
Iquitos
Paita
Piura
Ponco de Manserriche
Jaen
Chota
Pacasmayo
Cajamarca
Chimbote
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S. Antonio
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Odivellas
P. Chapeo
Para
Cayenne
GUIANA
Paramaribo
Georgetown
VENEZUELA
Orinoco
EQUATOR
Rio Yapura
Rio Amazon
Rio Purus
Rio Madeira
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Rio Parnahyba
Nova Cruz
Crato
Natal
Parahyba
Pernambuco
Joazeiro
Jatoba
Macelo
Straits of Magellan
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Cape Horn
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Longitude West from Greenwich
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